



# Terwilliger named American Crystallographic Association Fellow

January 4, 2013

The American Crystallographic Association (ACA) honored **Thomas Terwilliger** of LANL's Biosecurity and Public Health group with the rank of Fellow. He was inducted during the ACA annual meeting in Boston. The ACA Fellows program celebrates the excellence of its members and promotes their recognition worldwide. ACA Fellows serve as scientific ambassadors to the broader scientific community and the general public to advance science education, research, knowledge, interaction and collaboration.

## Research achievements

Terwilliger obtained his doctorate at the University of California, Los Angeles. He was a Helen Hay Whitney Postdoctoral Fellow and a Presidential Young Investigator before joining LANL in 1991. He developed the world's first completely automated procedure for finding the shapes of proteins by analyzing the diffraction of X-rays from crystals made of proteins. His SOLVE software converts the lengthy process used by macromolecular crystallographers to solve crystal structures into an optimization problem, and performs all the steps needed to go from diffraction spots to an "electron density" picture of a protein molecule.

Terwilliger was one of the founders of the field of structural genomics, in which the three-dimensional shapes of large numbers of proteins are determined in order to provide a foundation for understanding biology. He also founded the TB Structural Genomics Consortium to determine shapes of proteins from tuberculosis bacteria and provide a basis for drug discovery for treatment of the disease.

Author of over 140 publications, Terwilliger has published in *Nature*, *Science*, *Proceedings of the National Academy of Sciences*, *Nature Biotechnology*, and other major journals. He is a Fellow of the American Association for the Advancement of Science and a LANL Fellow. He works in the field of structural genomics and on methods for X-ray crystallography and served as the Director of the Los Alamos Center for Bio-Security Science.

## About the American Crystallographic Association

The American Crystallographic Association, Inc. is a nonprofit, scientific organization of over 2,200 members in more than 60 countries. Founded in 1949, the Association

promotes interactions among scientists who study the structure of matter at atomic (or near atomic) resolution. These interactions will advance experimental and computational aspects of crystallography and diffraction. Understanding the nature of the forces that both control and result from the molecular and atomic arrangements in matter will help shed light on chemical interactions in nature and could lead to cures for disease.

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